

REMARKS

The Examiner is thanked for the thorough examination and search of the subject.

- 5 Claims 231-237, 239, 240, 243-279 are pending. Claims 1-230, 238, 241, 242
and 280-319 have been canceled.

Response to Restriction Requirement

- 10 Based on the restriction requirement mailed Oct. 19, 2005, applicants provisionally
elect the embodiment 1 of Figs. 1A-1I show a process for fabricating a chip package from
five embodiments concerning different processes. The passive devices shown in Figs. 6,
7, 9A, 9B, 10A, 10B, 11A, 11B and 11C may be simultaneously formed during
fabricating a chip package using one of the five embodiments shown in Figs. 1A-1I,
15 2A-2E, 3A-3C, 4A-4I and 5A-5E.

- In the restriction requirement mailed Oct. 19, 2005, the Examiner does not
provide any select item for Figs. 6, 7, 9A, 9B, 10A, 10B, 11A, 11B and 11C concerning
how a passive device is employed into the embodiments shown in Figs. 1A-1I, 2A-2E,
20 3A-3C, 4A-4I and 5A-5E. Therefore, applicants were forced to elect the embodiment 1
of Figs. 1A-1I, and then applicants considered the structure combining Figs. 1A-1I and a
passive device was supposed to be incorporated in embodiment 1. Furthermore, at that
time, the feature concerning a passive device has been incorporated in independent claim
231 presented on Jul. 25, 2005 and on Nov. 18, 2005. Besides, based on the restriction
25 requirement mailed Jul. 6, 2004, applicants provisionally elect the embodiment 5 of Figs.
9-11 showing various passive devices. Patent grant for the structure combining Figs.
1A-1I and a passive device is always expected. If, in the restriction requirement mailed
Oct. 19, 2005, the Examiner had provided a select item for Figs. 6, 7, 9A, 9B, 10A, 10B,

11A, 11B and 11C, applicants must have elected the select item.

For at least the foregoing reasons, applicants think Claims 231-237, 239, 240, 243-279 comprising a structure combining Figs. 1A-1I and a passive device is
5 respectfully requested to be examined.

Response to Objection

*Reconsideration of drawings objected to under 37 CFR 1.83(a) is requested in
10 accordance with the following remarks.*

Applicants consider a structure combining Figs. 1A-1I and a passive device is supposed to be examined, and therefore, Claims supported by the structures in Figs. 6 and 7 having passive devices employed into the structure in Figs. 1A-1I should be examined.
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The recitation of “a passive device” in claims 231-240 and 243-279 is shown in Figs. 6 and 7 and indicated by a reference number of “644”. The recitation of “an insulating layer over said passive device” in claims 255-258 is shown in Figs. 6 and 7. Withdrawal of the objection is respectfully requested.
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Response to Claim Rejections under 35 U.S.C. 112

Reconsideration of claim 277 rejected under 35 U.S.C. 112, second paragraph, as being indefinite is requested in accordance with the amendment to claim 277.
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Applicants consider a structure combining Figs. 1A-1I and a passive device is supposed to be examined, and therefore, Claims supported by the structures in Figs. 6 and 7 having passive devices employed into the structure in Figs. 1A-1I should be examined.

With regards to claim 277, claim 277 is supported in Fig. 6 or 7. A passive device 644 is over a horizontal level that extends from a top surface of at least a die 620, 720a or 720b to the space outside the top surface of said at least a die 620, 720a or 720b, but the passive device 644 is not over said at least a die 620, 720a or 720b, as shown in Fig. 6 or 7. Withdrawal of the rejection is respectfully requested.

Response to Claim Rejections under 35 U.S.C. 102 and 103

Applicants respectfully traverse the rejections for at least the reasons set forth below.

Response to Claims 231-237, 239, 240, 243-279

As currently amended, independent claim 231 is recited below:

231. A circuitry component comprising:

a first die having a top surface at a horizontal level;

a bottommost metal layer over said horizontal level and extending to a place not

over said first die, wherein said bottommost metal layer is connected to said first die; and

a passive device over said horizontal level.

Section I

Reconsideration of Claims 231, 232, 239-240, 243, 247, 251, 259-260, 264-265, 267-272 and 278-279 rejected under 35 U.S.C. 102(b) as being anticipated by Eichelberger (US6,159,767), and of Claims 233-237, 244-246, 248-250, 252-254 and 266 rejected under 35 U.S.C. 103(a) as being unpatentable over Eichelberger (US6,159,767)

in view of Foster et al. (US6,603,072) and/or Yuyama et al. (US6,620,513), and of Claims 261-263 and 271-276 rejected under 35 U.S.C. 103(a) as being unpatentable over Eichelberger (US6,159,767) is requested in accordance with the following remarks.

- 5 Applicants respectfully assert that the electronic component claimed in claim 231 patentably distinguishes over the citations by Eichelberger (US 6,159,767).

Eichelberger teaches a circuitry component comprising a die 102 having a top surface at a horizontal level; a bottommost metal layer over said horizontal level and
10 extending to a place not over said die 102, wherein said bottommost metal layer is connected to said die 102; and an electronic device 220 over said horizontal level. ~ See Fig. 6 and lines 11-17, col. 12 ~

In the Examiner's opinion, since Eichelberger defines chips 102 as being "active IC
15 chips", the electronic device 220 connected to the active chips 102 is considered as a passive device (not active device). ~ See lines 2-4 in page 4, in the last Office Action mailed Jun. 13, 2006 ~ Besides, the Examiner points out that Eichelberger's figure 6 (col. 11, line 60 to col. 12, line 17) discloses chip (or die) 102 being defined as "active IC chip" and reference number 220 as "electronic component" added to the structure for
20 mixed signals applications". Since electronic component 220 is not defined as a "active device", it must be implied a passive component or a passive device. ~ See lines 7-12 in the last paragraph, in page 12, in the last Office Action mailed Jun. 13, 2006 ~

Applicants respectfully traverse the Examiner's opinion. Applicants consider that
25 the active IC chip 102 can be alternatively connected to another active IC chip for a chip-on-chip package. Therefore, the electronic component 220 should not be certainly implied as a passive device. As a result, Applicants consider that Eichelberger fails to teach, hint or suggest that a passive device can be over said horizontal level, which is

claimed in claim 131.

For at least the foregoing reasons, applicants respectfully submit independent claim 231 patently distinguishes over the prior art references, and should be allowed. For at least the same reasons, dependent claims 232-237, 239, 240, and 243-279 patently define over the prior art as well.

Section II

Reconsideration of Claims 231, 232, 236, 239-240, 243-244, 247-248, 251-252, 255-256, 259-260, 264, 271-273 and 277-279 rejected under 35 U.S.C. 102(b) as being anticipated by Saia et al. (US5,874,770), of Claims 233-235, 237, 245-246, 249-250, 253-254 and 257-258 rejected under 35 U.S.C. 103(a) as being unpatentable over Saia et al. (US5,874,770) in view of Foster et al. (US6,603,072) and/or Yuyama et al. (US6,620,513), and of Claims 261-263 and 274-276 rejected under 35 U.S.C. 103(a) as being unpatentable over Saia et al (US5,874,770) is requested in accordance with the following remarks.

Applicants respectfully assert that the electronic component claimed in claim 231 patentably distinguishes over the citations by Saia et al (US 5,874,770).

Saia et al teach a circuitry component comprising a die 44 having a top surface at a horizontal level; a bottommost metal layer 33 and 38 over said horizontal level and extending to a place not over said die 44; and a passive device 28, 33 or 37 over said horizontal level. ~ See Figs. 7-12 and lines 47-49, col. 6 ~

In the Examiner's opinion, the elements indicated by reference numbers 47, 48 and 52 has a metal layer portion on the insulation layer 40, which can be deemed as a bottommost metal layer. ~ See lines 2-6 in page 6 and lines 3-8 in page 13, in the last

Office Action mailed Jun. 13, 2006 ~

Applicants respectfully traverse the Examiner's opinion. Applicants consider that the metal layer portion of the elements 47, 48 and 52 should not be deemed as a
5 bottommost metal layer over the die 44 because there is another metal layer 33 and 38 under the metal layer portion of the elements 47, 48 and 52 and over the die 44. Therefore, Applicants consider that only the metal layer 33 and 38 can be deemed as the bottommost metal layer over the die 44.

10 Furthermore, Applicants consider that Eichelberger fails to teach, hint or suggest that the bottommost metal layer 33 and 38 can be connected to said die 44, which is claimed in claim 231.

For at least the foregoing reasons, applicants respectfully submit independent claim
15 231 patently distinguishes over the prior art references, and should be allowed. For at least the same reasons, dependent claims 232-237, 239, 240, and 243-279 patently define over the prior art as well.

CONCLUSION

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Some or all of the pending claims are believed to be in condition for Allowance, and that is so requested.

25

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Sincerely yours,



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- 10 Note: Please leave a message in my voice mail if you need to talk to me. (The time in D.C. is 12 hours behind the Taiwan time, i.e. 9 AM in D.C. = 9 PM in Taiwan.)